Effectiveness of Pharmacist-led Frail Elderly Medication Service in Acute Geriatric Ward

HA CONVENTION 2017

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Background

Polypharmacy

Highest Risk Frail Elderly

Inappropriate Prescribing

Non-compliance

Improve discharge medication compliance

Optimize drug therapy
Objectives

- To optimize medication therapy in frail elderly patients
- To enhance compliance and communication through pharmacist-led discharge counselling and patient-friendly medication reminders with patients, caregivers or staff in old aged home

To provide better patient care to elderly through multidisciplinary team
Setting

- In an Acute & Convalescent Female Geriatric Ward
- Total Beds: 42
- Period: Feb 2016- Jan 2017 (1 year)
- Part-time basis, From Mon to Fri, around 3-4 hours/day
Pharmacist Service (Part-time basis)

**Medication Reconciliation**

- Review any unintentional medication discrepancies on admission or upon discharge
- Check any duplications from different specialties/hospitals
- Check compliance
- Trace private meds
Total admissions during study period = 2319

Total cases with medication reconciliation on admission = 1698 (73%)

Number of medication errors on admission and upon discharge = 229

Total cases with medication reconciliation upon discharge = 920 (40%)
Pharmacist Service  (Part-time basis)

Medication Reconciliation

- Review any unintentional medication discrepancies on admission or upon discharge
- Check any duplications from different specialties/hospitals
- Check compliance
- Trace private meds
RESULT

Total admissions during study period = 2319

Total cases with medication reconciliation on admission = 1698 (73%)

36% (n=604) of patients are living alone or with family

- Among the 604 cases, 76% (n=457) of patients’ compliance was checked
- 8% of patients was non-compliant

Total cases with medication reconciliation upon discharge = 920 (40%)

Number of medication errors on admission and upon discharge = 229
Pharmacist Service (Part-time basis)

Medication Review

- Drug Regimen
- Renal dosage adjustment, e.g. antibiotics, LMWH, NOACs
- Potentially inappropriate prescribing
- Deprescribing, e.g. anti-hypertensive drugs, oral hypoglycemic agents, patients in end of life
- Drug crushability recommendation in patients with swallowing difficulty or on Ryle’s tube
Type of Interventions

- Drug Regimen
- Dosage Adjustment
- Potentially Inappropriate Prescription (PIP)
- Deprescribing
- Possible Prescribing Omission (PPO)
- Monitoring
- Drug Crushability Issue

Defined as the use of medicines whose potential harms may outweigh the benefits or the drug is not necessary, based on the clinical situation.

Defined as tapering, reducing, or stopping medications, with the goal of managing polypharmacy and improving outcomes.

Defined as the omission of potentially beneficial medication.
RESULT

Total number of interventions: 236
85% of interventions was accepted

<table>
<thead>
<tr>
<th>Classification of Intervention</th>
<th>201.5*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Drug Regimen</td>
<td>60.5</td>
</tr>
<tr>
<td>B. Dosage Adjustment</td>
<td>35</td>
</tr>
<tr>
<td>C. Potentially Inappropriate Prescription</td>
<td>38</td>
</tr>
<tr>
<td>D. Deprescribing</td>
<td>27</td>
</tr>
<tr>
<td>E. Possible Prescribing Omission</td>
<td>1</td>
</tr>
<tr>
<td>F. Monitoring</td>
<td>2</td>
</tr>
<tr>
<td>G. Drug Crushability Issue</td>
<td>38</td>
</tr>
</tbody>
</table>

* Partially accepted intervention was considered as 0.5
## Ruttonjee & Tang Shiu Kin Hospitals
### Pharmacist Intervention Form

<table>
<thead>
<tr>
<th>Drug(s)</th>
<th>Recommendation(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please affix patient gum label

### Detail of Pharmacist Intervention:
With reference to (if applicable): □ STOPP  □ START  □ Guidelines on elderly

### By Pharmacist: ____________________________  Date: ____________

### Physician’s Action:  
- □ The recommendation is accepted.
- □ The recommendation is partially accepted with modification by physician.  
  **Comments (if any):** ____________________________
- □ The recommendation is not accepted by physician’s clinical judgment.
- □ Others. Please state:  
  **Comments (if any):** ____________________________

### Doctor’s Signature: ____________________________  Date: ____________

### Pharmacy Use Only:  
- □ A. Drug Regimen
- □ B. Dosage Adjustment
- □ C. Potentially Inappropriate Prescription (PIP)
- □ D. Deprescribing
- □ E. Possible Prescribing Omission (PPO)
- □ F. Monitoring
- □ G. Other Issues
- □ Swallowing Issue  □ MR
Pharmacist Service  (Part-time basis)

Medication Counselling

- To patient or caregivers
- To caregivers in Old Aged Home
- With a designed discharge medication summary for any drug regimen amendment
36% (n=604) of patients are living alone or with family.

- Among the 604 cases, 76% (n=457) of patients’ compliance was checked.
- 8% of patients was non-compliant.

RESULT

Total admissions during study period = 2319

Total cases with medication reconciliation on admission= 1698 (73%)

36% (n=604) of patients are living alone or with family.
- Among the 604 cases, 76% (n=457) of patients’ compliance was checked.
- 8% of patients was non-compliant.

Total cases with medication reconciliation upon discharge= 920 (40%)

Number of medication errors on admission and upon discharge = 229

30% (n=280) with discharge counselling

25% (n=230) with patient-friendly reminder
## Potentially Inappropriate Prescription

<table>
<thead>
<tr>
<th>Potentially Inappropriate Prescription</th>
<th>De-prescribing</th>
</tr>
</thead>
<tbody>
<tr>
<td>According to STOPP,</td>
<td>Anti-hypertensive drugs in patient with low BP</td>
</tr>
<tr>
<td>- TCA (e.g. amitriptylline)</td>
<td></td>
</tr>
<tr>
<td>- SSRI</td>
<td>Oral hypoglycemic drugs, e.g. gliclazide (Diamicron), in patient with frequent hypoglycemia, or relatively low HbA1c</td>
</tr>
<tr>
<td>- Distigmine (Uretid) on Foley</td>
<td></td>
</tr>
<tr>
<td>Anti-hypertensive drugs in patient with low BP</td>
<td></td>
</tr>
<tr>
<td>Antibiotic for inappropriate duration</td>
<td>Anti-parkisononism drugs, e.g. Sinemet, Madopar, in frail and bedbound patients with reduced intake</td>
</tr>
<tr>
<td>Electrolyte Supplement according to Na, K, HCO3, etc</td>
<td></td>
</tr>
<tr>
<td>ACEI due to increased Cr and K</td>
<td>Dementia drug, e.g Exelon, Memantine in frail elderly or end of life patients</td>
</tr>
<tr>
<td>Metformin due to increased Cr</td>
<td></td>
</tr>
<tr>
<td>PPI not indicated</td>
<td></td>
</tr>
<tr>
<td>Addition of Thyroxine in subclinical hyperthyroidism</td>
<td>Future disease preventive drugs, e.g. Fosamax and Calcium for osteoporosis, multivitamin, statins for stroke prophylaxis in patient with limited life expectancy</td>
</tr>
<tr>
<td>Diuretic in patient with electrolyte imbalance</td>
<td></td>
</tr>
<tr>
<td>Benzhexol (Artane) to treat extra-pyramidal side effects of antipsychotic drugs, esp in confused patients</td>
<td>Anti-psychotic drugs, e.g. deanxit, with unclear indication and frail elderly</td>
</tr>
<tr>
<td>Warfarin use for 1ˢᵗ uncomplicated DVT for longer than 6 months</td>
<td></td>
</tr>
</tbody>
</table>
How do physicians and nurses think about the service?

- All physicians and nurses indicated that the input from a pharmacist in the ward is beneficial and decreases the amount of time they have to spend with the patients on medication-related problems.
- They agreed for us to continue providing this kind of service and recommend it to other wards.
Conclusion

- It is the first study to report findings of geriatric ward clinical pharmacy service in our hospital.
- Demonstrated the value of a pharmacist in the multidisciplinary team caring for frail elderly in optimizing medication use and reducing medication errors.
- Assist us in future planning for Quality Improvement Services.
Acknowledgement

- Mr. Yick Pak Kin, RTSKH Senior Pharmacist
- Dr Carolyn Kng, RTSKH Cons (IMS)/Head of Dept (Ger)
- Dr H.L. Kong, RTSKH SMO (Ger)
- Dr C.K. Wong, RTSKH AC (Ger)
- Dr K.L. Lin, RTSKH AC (Ger)
- Dr N.C. Shum, RTSKH VMO (Ger)
- Miss Sabrina Ho, RTSKH NC (Ger)
- Miss Peggy Lui, RTSKH WM (Ger)
- Miss Florence Ng, RTSKH WM(Ger)
- All Doctors & Nurses & Supporting Staff in Ward C8
Thank You
Q & A